

Application No.: 10/632,499  
Filed: August 1, 2003  
Reply dated: January 28, 2008  
Reply to Office Action of August 27, 2007

### Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in this application:

### Listing of Claims

Claim 1 (currently amended): A method for optimizing the image quality of movable subjects imaged with a microscope system, comprising the following steps:

optically acquiring images by a detector unit, each image having a plurality of pixels;

determining a respective displacement vector field from a comparison of the pixels of each two chronologically successive acquired images;

identifying a trajectory for each pixel of the acquired images from the displacement vector fields; and

applying an operation to the ~~acquired~~ images optically acquired by the detector unit along the identified trajectory.

Claim 2 (previously presented): The method as defined in Claim 1, wherein the operation along the identified trajectory is a deconvolution, a smoothing, an averaging filter, or an operation acting in time-lateral fashion.

Claim 3 (currently amended): The method as defined in Claim 1, wherein the ~~acquired~~ images optically acquired by the detector unit are conveyed to an image memory; and data obtained from the ~~acquired~~ images optically acquired by the detector unit ~~[[are]]~~ is conveyed to an optical flow calculator to a trajectory tracker, and to a trajectory memory.

Claim 4 (currently amended): The method as defined in Claim 3, wherein for the application of the operation, the ~~acquired~~ images optically acquired by the detector unit ~~[[is]]~~ are retrieved from the image memory and corresponding trajectory data is retrieved from the trajectory memory in a correlated way.

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Claim 5 (previously presented): The method as defined in Claim 4, wherein the data generated by application of the operation is conveyed to a second image memory.

Claim 6 (original): The method as defined in Claim 1, wherein the microscope system contains a scanning microscope or a conventional microscope.

Claim 7 (currently amended): An arrangement for optimizing the image quality of movable subjects imaged with a microscope system, comprising:

at least one objective defining an image window,

a detector unit for optically acquiring images, each image optically acquired by the detector unit having a plurality of pixels,

a computer system comprising

a means for determining a respective displacement vector field from a comparison of the pixels of at least two chronologically successive ~~acquired~~ images optically acquired by the detector unit,

a means for identifying a trajectory for each pixel of the ~~acquired~~ images optically acquired by the detector unit from the displacement vector fields, and

a means for applying an operation to the ~~acquired~~ images optically acquired by the detector unit along the identified trajectory.

Claim 8 (currently amended): The arrangement as defined in Claim 7, wherein the means for applying an operation to the ~~acquired~~ images optically acquired by the detector unit along the identified trajectory is chosen from: a deconvolution means, a smoothing means, an averaging filter, or a means for operation acting in time-lateral fashion.

Claim 9 (currently amended): The arrangement as defined in Claim 7, further comprising a first image memory storing the ~~acquired~~ images optically acquired by the detector unit:

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a trajectory memory storing trajectory data obtained from the ~~acquired~~ images  
optically acquired by the detector unit; and

a second image memory storing the images created by the correlation of the  
images from the first image memory with the trajectory data from the trajectory memory.

Claim 10 (original): The arrangement as defined in Claim 7, wherein the microscope  
system encompasses a scanning microscope or a conventional microscope.

Claim 11 (previously presented): Computer-usable software on a computer-readable  
medium, wherein the software causes a microscope system to carry out a method as  
defined in one of Claims 1 through 6.